

of bioactive peptides containing 2 to 30 amino acid units, proteins, antibody fragments, mono- and oligosaccharides; Dm is selected from the group consisting of photosensitizers, photoactive molecules, and phototherapy agents; a and c independently vary from 1 to 10; b and d independently vary from 1 to 30.

3. The compound of claim 2 wherein each W_1 , and W_2 is $-C(CH_3)_2$; each K_1 and K_2 is $-(CH_2)_4CO-$; each Q, X_1 and X_2 is a single bond; each R^1 to R^9 , Y_1 and Z_1 is H; Y_2 is a tumor-specific agent; and Z_2 is a phototherapy agent.

4. The compound according to claim 3 wherein the said tumor-specific agent is a bioactive peptide containing 2 to 30 amino acid units.

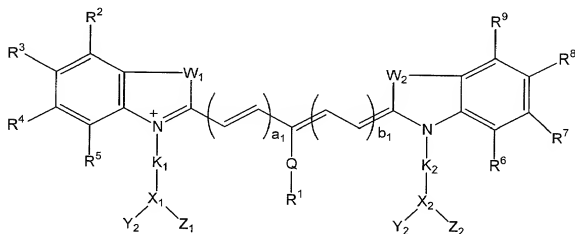
5. The compound according to claim 4 wherein the said tumor-specific agent is octreotate and bombesin (7-14).

6. The compound according to claim 3 wherein the said phototherapy agent is a photosensitizer.

7. The compound according to claim 6 wherein the said photosensitizer is 2-[1-hexyloxyethyl]-2-devinylpyropheophorbide-a.

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8. A method for performing a diagnostic and therapeutic procedure comprising administering to an individual an effective amount of the composition of cyanine dye bioconjugate of Formula 1



- 5 wherein W_1 and W_2 may be the same or different and are selected from the group consisting of $-\text{CR}^{10}\text{R}^{11}$, $-\text{O}-$, $-\text{NR}^{12}$, $-\text{S}-$, and $-\text{Se}-$; Y_1 , Y_2 , Z_1 , and Z_2 are independently selected from the group consisting of hydrogen, tumor-specific agents, phototherapy agents, $-\text{CONH-Bm}$, $-\text{NHCO-Bm}$, $-(\text{CH}_2)_a-\text{CONH-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{CONH-Bm}$, $-(\text{CH}_2)_a-\text{NHCO-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-$
- 10 NHCO-Bm , $-(\text{CH}_2)_a-\text{N}(\text{R}^{12})-(\text{CH}_2)_b-\text{CONH-Bm}$, $-(\text{CH}_2)_a-\text{N}(\text{R}^{12})-(\text{CH}_2)_c-\text{NHCO-Bm}$, $-(\text{CH}_2)_a-\text{N}(\text{R}^{12})-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{CONH-Bm}$, $-(\text{CH}_2)_a-\text{N}(\text{R}^{12})-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{NHCO-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{N}(\text{R}^{12})-(\text{CH}_2)_a-\text{CONH-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{N}(\text{R}^{12})-(\text{CH}_2)_a-\text{NHCO-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{N}(\text{R}^{12})-$

- $\text{CH}_2-(\text{CH}_2\text{OCH}_2)_d-\text{CONH-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{N}(\text{R}^{12})-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_d-$
 NHCO-Bm , $-\text{CONH-Dm}$, $-\text{NHCO-Dm}$, $-(\text{CH}_2)_a-\text{CONH-Dm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-$
 $\text{CH}_2-\text{CONH-Dm}$, $-(\text{CH}_2)_a-\text{NHCO-Dm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{NHCO-Dm}$, $-(\text{CH}_2)_a-$
 $\text{N}(\text{R}^{12})-(\text{CH}_2)_b-\text{CONH-Dm}$, $-(\text{CH}_2)_a-\text{N}(\text{R}^{12})-(\text{CH}_2)_c-\text{NHCO-Dm}$, $-(\text{CH}_2)_a-\text{N}(\text{R}^{12})-\text{CH}_2-$
5 $(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{CONH-Dm}$, $-(\text{CH}_2)_a-\text{N}(\text{R}^{12})-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{NHCO-Dm}$,
 $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{N}(\text{R}^{12})-(\text{CH}_2)_a-\text{CONH-Dm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{N}(\text{R}^{12})-$
 $(\text{CH}_2)_a-\text{NHCO-Dm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{N}(\text{R}^{12})-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_d-\text{CONH-Dm}$,
 $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{N}(\text{R}^{12})-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_d-\text{NHCO-Dm}$, $-(\text{CH}_2)_a-\text{N} \text{R}^{12}\text{R}^{13}$,
and $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2\text{N} \text{R}^{12}\text{R}^{13}$; K_1 and K_2 are independently selected from
10 the group consisting of C_1-C_{30} alkyl, C_5-C_{30} aryl, C_1-C_{30} alkoxy, C_1-C_{30}
polyalkoxyalkyl, C_1-C_{30} polyhydroxyalkyl, C_5-C_{30} polyhydroxyaryl, C_1-C_{30}
aminoalkyl, saccharides, peptides, $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-$, $-(\text{CH}_2)_a-\text{CO}-$, $-(\text{CH}_2)_a-$
 CONH , $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{CONH}$, $-(\text{CH}_2)_a-\text{NHCO}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-$
 NHCO , $-(\text{CH}_2)_a-\text{O}$, and $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CO}$; X_1 and X_2 are single bonds, or
15 are independently selected from the group consisting of nitrogen, saccharides,
 $-\text{CR}^{14}$, $-\text{CR}^{14}\text{R}^{15}$, $-\text{NR}^{16}\text{R}^{17}$; C_5-C_{30} aryl; Q is a single bond or is selected from
the group consisting of $-\text{O}$, $-\text{S}$, $-\text{Se}$, and $-\text{NR}^{18}$; a , and b , independently vary
from 0 to 5; R^1 to R^{13} , and R^{18} are independently selected from the group
consisting of hydrogen, C_1-C_{10} alkyl, C_5-C_{20} aryl, C_1-C_{10} alkoxy, C_1-C_{10}
20 polyalkoxyalkyl, C_1-C_{20} polyhydroxyalkyl, C_5-C_{20} polyhydroxyaryl, C_1-C_{10}
aminoalkyl, cyano, nitro, halogens, saccharide, peptides, $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-$
 OH , $-(\text{CH}_2)_a-\text{CO}_2\text{H}$, $-(\text{CH}_2)_a-\text{CONH-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{CONH-Bm}$,
 $-(\text{CH}_2)_a-\text{NHCO-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{NHCO-Bm}$, $-(\text{CH}_2)_a-\text{OH}$ and $-\text{CH}_2-$
 $(\text{CH}_2\text{OCH}_2)_b-\text{CO}_2\text{H}$; R^{14} to R^{17} are independently selected from the group
25 consisting of hydrogen, C_1-C_{10} alkyl, C_5-C_{20} aryl, C_1-C_{10} alkoxy, C_1-C_{10}
polyalkoxyalkyl, C_1-C_{20} polyhydroxyalkyl, C_5-C_{20} polyhydroxyaryl, C_1-C_{10}